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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,611

08/19/2003

Toshitaka Aoyagi

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02/13/2006

LEYDIG VOIT & MAYER, LTD  
700 THIRTEENTH ST. NW  
SUITE 300  
WASHINGTON, DC 20005-3960

EXAMINER

VAN ROY, TOD THOMAS

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/642,611

Applicant(s)

AOYAGI ET AL.

Examiner

Tod T. Van Roy

Art Unit

2828

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 26 January 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☒ Applicant's reply has overcome the following rejection(s): claims 2, and 7.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: 7.  
Claim(s) objected to: 2.  
Claim(s) rejected: 1, 3, 6, 8-9.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

The examiner acknowledges the amending of claims 7 and 8 as being rewritten in independent form.

### ***Response to Arguments***

Applicant's arguments filed 01/26/2006 have been fully considered but they are not persuasive.

With regards to claim 1, the applicants argue that Abe, Lo, nor Sato teach first and second diffraction gratings respectively extending from the central phase-shift region to first and second end faces and having different periods. The examiner does not agree with the applicant's statement. Abe clearly shows in each embodiment that the diffraction gratings on either side of the central phase-shift region extend to the first and second end faces of the device (this is most evident in figs. 1b, 2b, 3b, 4c, 5c etc.). In addition, Lo and Sato further motivate the coupling coefficient value and different diffraction grating periods respectively, as outlined in the rejection of the claim.

With regards to claim 8, the applicant states that Abe does not teach the thickness of a layer supporting the diffraction grating to be changed, but rather that the thickness of the grating itself is changed. The examiner does not agree with the argument. Figure 7, as referred to in the rejection to claim 8, teaches changing the thickness of the supporting layer under the diffraction grating to change the coupling constant. The applicant's arguments refer to Figure 6. In addition, the region 1 in Figure 6 has a larger coupling coefficient than region 2, and this corresponds in the next

Art Unit: 2828

embodiment with region 1 (having a thin supporting layer) having a larger coefficient than region 2 (having a thick supporting layer) in Figure 7, as stated in the claim limitation.

Claims 3, 6, and 9, are not found to be allowable as per the reasons stated in the previous office action.

Applicant's arguments, see Remarks, filed 01/26/2006, with respect to claims 2, and 7 have been fully considered and are persuasive. The rejection of claims 2, and 7 has been withdrawn.

***Allowable Subject Matter***

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 is believed to be allowable as tailoring the absolute value of the real part of the coupling coefficient to be four times the absolute value of the imaginary part of the coupling coefficient was not found to be an obvious combination with the previously cited references. The examiner agrees with the applicant's arguments that the  $L_u$  reference is directed more towards resonator length, and number of quantum wells

influencing the coupling coefficient found in a symmetrical laser, making the combination of the reference with the prior art non-obvious.

Claim 7 is believed to be allowable as increasing the number of the high index layers in the diffraction grating having the larger coupling coefficient to a value higher than the number of high index layers in the diffraction grating having the lower index material was not found to be taught in the prior art. The examiner agrees with the applicant that the Takiguchi reference teaches changing the thickness and value of the refractive index, but not by way of adding layers, and not in a manner that would result in different coupling coefficients in different sides of the grating.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR



MINGSUN OH HARVEY  
PRIMARY EXAMINER

